

CHAPTER TEN

FRONT DRIVE MECHANISM FOUR-WHEEL DRIVE

This chapter contains repair and replacement procedures for the front drive mechanism. Service to the front drive mechanism consists of periodically checking the rubber boots on the front drive axles. If the boot(s) gets torn or damaged the pivot bearings may get damaged from dirt and water. The lubrication level check and service procedures for the front differential and front gear case are covered in Chapter Three.

NOTE

Drive axle boot guards (Figure 1) are available from Honda. These plastic guards bolt to the front suspension and help to protect the rubber boots from being torn or damaged during adverse riding conditions. Check with a Honda dealer for these guards (Honda part No. 51310-HC5-970) that are available as a kit that contains a guard for each side and all mounting hardware.

Front drive mechanism torque specifications are listed in **Table 1** located at the end of this chapter.

FRONT DRIVE AXLE

Removal

1. Place the vehicle on level ground and set the parking brake. Block the rear wheels so the vehicle will not roll in either direction.
2. Remove the front wheels as described in Chapter Nine.
3. Remove the front brake drum as described in Chapter Twelve.
4. Disconnect the breather hose from the brake panel.
5. Remove the steering knuckle from the upper and lower front suspension arms as described in Chapter Nine.

6. Carefully pull the brake panel and tie rod assembly off of the front drive shaft. Tie it up to the frame to take the strain off the brake hose.

7. Temporarily install the front hub (A, **Figure 2**) and tighten the hub nut securely.

CAUTION

To avoid damage to the front differential oil seal, hold the front drive shaft horizontal and straight out from the front differential during removal.

8. Hold the drive shaft *straight out*.

9. Use a rubber or soft-faced mallet (B, **Figure 2**) and tap on the backside of the front hub until the drive shaft stopper ring is free from the front differential side gear groove.

10. Hold onto the inboard joint of the drive shaft and pull the drive shaft *straight out* of the front differential and remove the front drive shaft.

Inspection

NOTE

The boots are subjected to a lot of abuse if the vehicle is ridden in rough terrain. If the boots are damaged and left unrepaired, the driveshaft joints will fail prematurely by allowing the joint to be exposed to dirt, mud and moisture. This also allows the loss of critical lubrication.

1. Check the rubber boots (A, **Figure 3**) for wear, cuts or damage and replace if necessary as described under the *Disassembly/Assembly* procedure in this chapter.

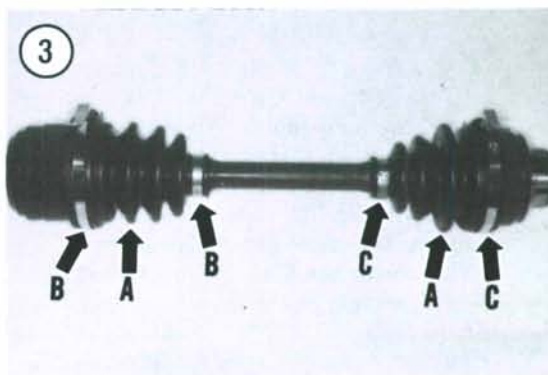
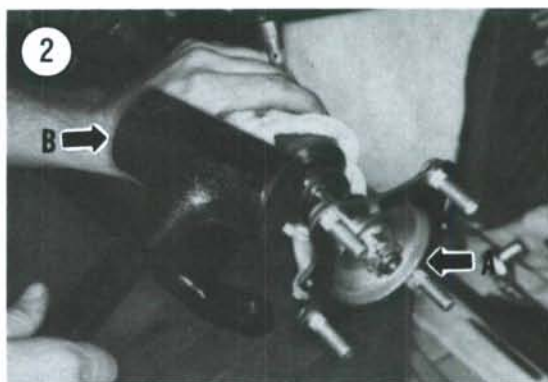
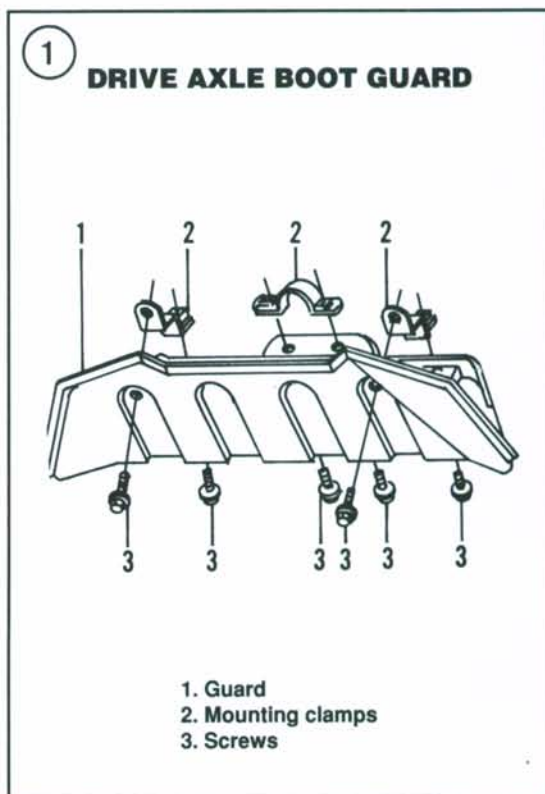
2. Move each end of the drive shaft in a circular motion and check the drive shaft joints for excessive wear or play.

3. The inboard pivot joint can be serviced if there is wear or play. The outboard pivot joint *cannot* be serviced if worn or damaged and if necessary, the drive shaft assembly must be replaced.

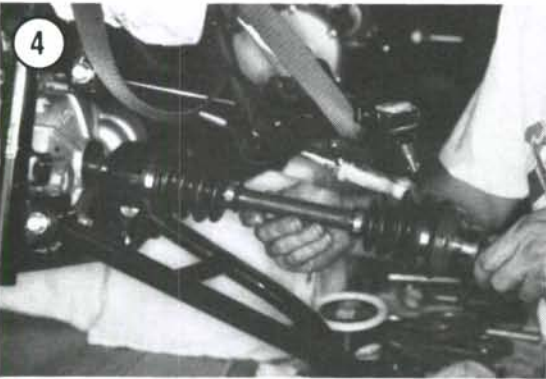
Installation

CAUTION

To avoid damage to the front differential oil seal, hold the front drive shaft horizontal and straight into the front differential during installation.



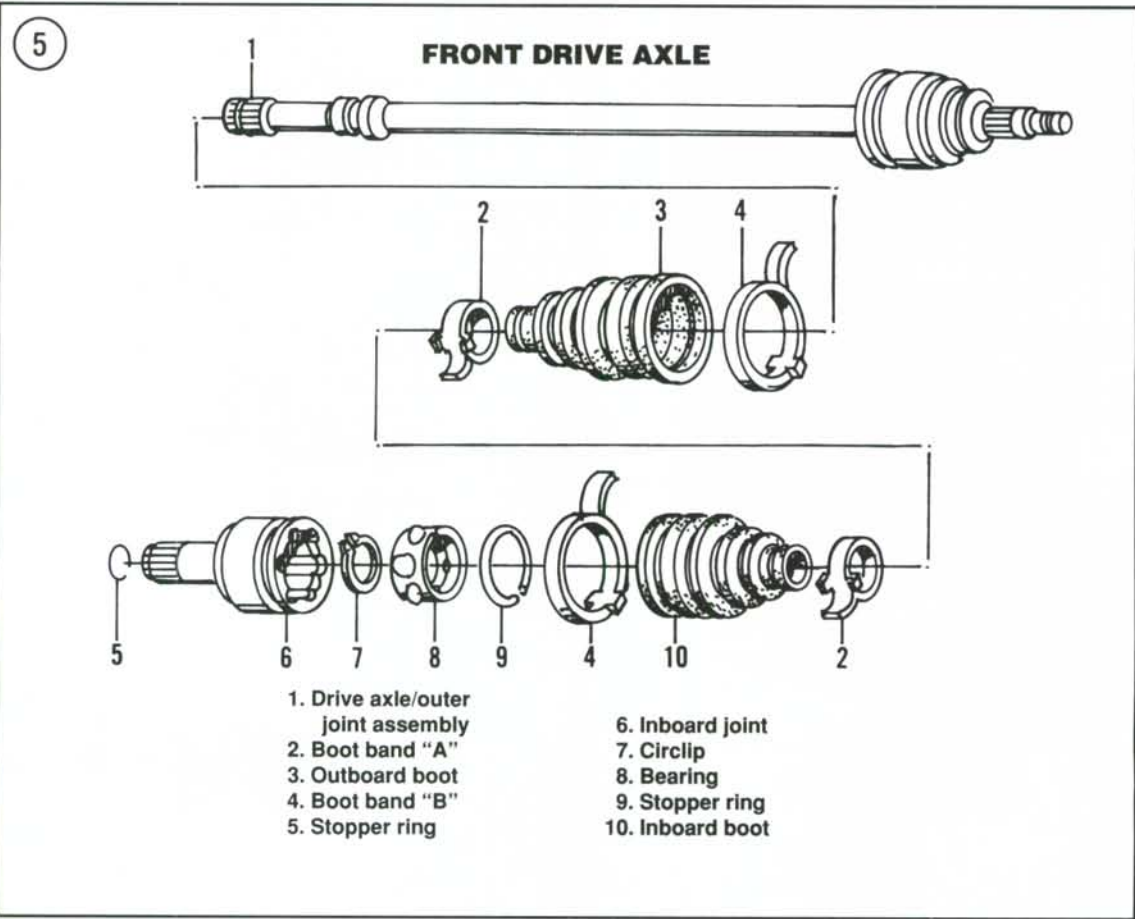
1. Hold the drive shaft *straight in* from the front differential (**Figure 4**).
2. Push the drive shaft *straight into* the front differential and push it in all the way until it bottoms out. If necessary, carefully tap on the outer end of the drive shaft with a rubber mallet or soft-faced mallet.



3. After the drive shaft is installed, pull the inboard joint a little to make sure the drive shaft stopper ring has locked into the front differential side gear groove.
4. Carefully slide the brake panel and tie rod assembly onto the front drive shaft.
5. Install the steering knuckle onto the upper and lower front suspension arms as described in Chapter Nine.
6. Connect the breather hose onto the brake panel.
7. Install the front brake drum as described in Chapter Twelve.
8. Install the front wheels as described in Chapter Nine.

Disassembly

Refer to **Figure 5** for this procedure.



NOTE

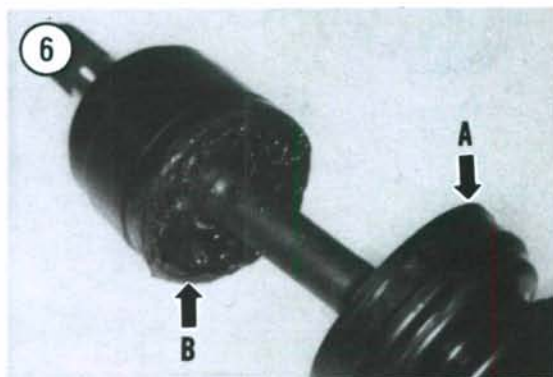
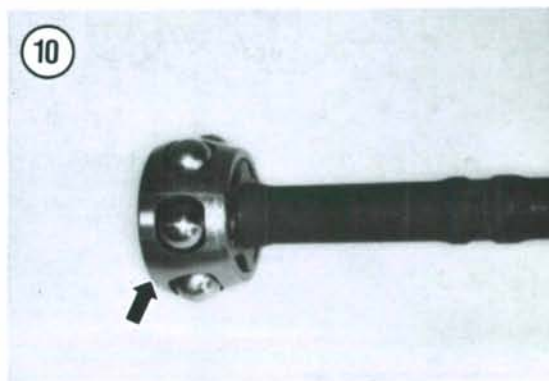
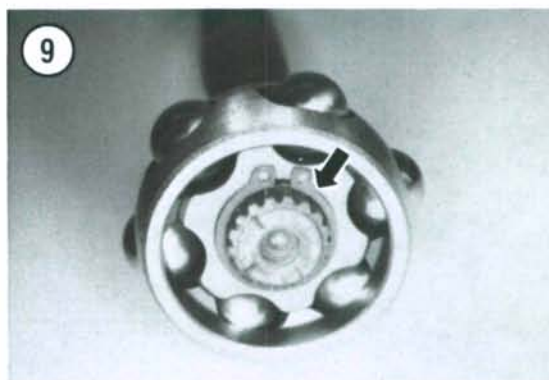
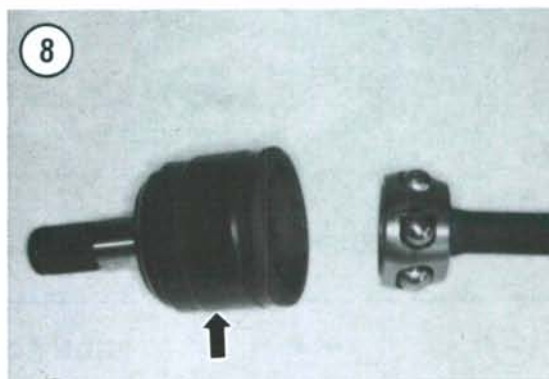
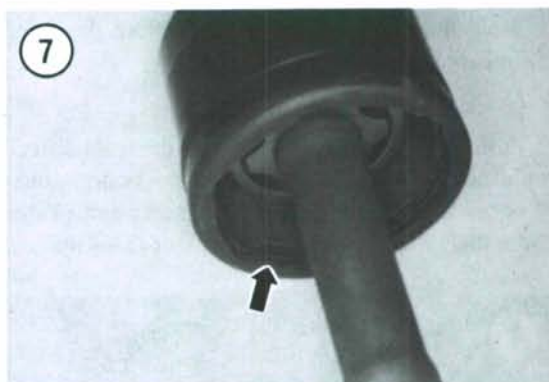
The outboard joint cannot be disassembled or repaired, if damaged or faulty the drive axle assembly must be replaced.

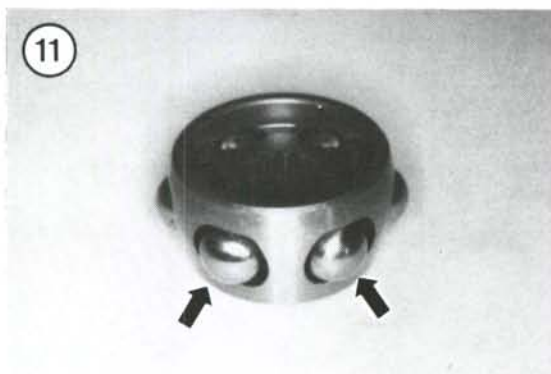
1. Open the clamps on both boot bands "A" and "B" (B, **Figure 3**) on the inboard joint, then remove boot band "B." Discard the boot band, it cannot be reused.
2. Carefully slide the boot (A, **Figure 6**) onto the drive axle and off the inboard joint.
3. Wipe out all of the molybdenum disulfide grease within the inboard joint cavity (B, **Figure 6**).
4. Remove the stopper ring (**Figure 7**) from the inboard joint.
5. Remove the inboard joint (**Figure 8**).
6. Remove the circlip (**Figure 9**) and slide off the bearing assembly (**Figure 10**). Be careful not to drop any of the steel balls from the bearing cage.
7. Slide the inboard boot off the drive axle and discard the boot band "A," it cannot be reused.
8. If the outboard boot requires replacement, perform the following:
 - a. Open the clamps on both boot bands "A" and "B" (C, **Figure 3**) on the outboard joint, then remove boot band "B." Discard the boot band, it cannot be reused.
 - b. Slide the outboard boot off the drive axle and discard the boot band "A," it cannot be reused.
9. Inspect the drive axle as described in this chapter.

Inspection

Refer to **Figure 5** for this procedure.

1. Clean the bearing assembly in solvent and thoroughly dry.





2. Inspect the steel balls (**Figure 11**), bearing case (A, **Figure 12**) and the bearing race (B, **Figure 12**) for wear or damage.

3. Check for wear or damage to the inner splines (**Figure 13**) of the bearing race.

4. If necessary, disassemble the bearing assembly for further inspection. Carefully remove the steel balls from the bearing cage then remove the bearing race from the bearing cage.

5. If any of the components of the bearing assembly are damaged, replace the entire assembly as no replacement parts are available.

6. Clean the inboard joint in solvent and thoroughly dry.

7. Inspect the interior of the inboard joint where the steel balls ride (A, **Figure 14**). Check for wear or damage and replace the joint if necessary.

8. Inspect the snap ring groove (B, **Figure 14**) on the inboard joint for wear or damage.

9. Inspect the splines (A, **Figure 15**) on the inboard joint for wear or damage.

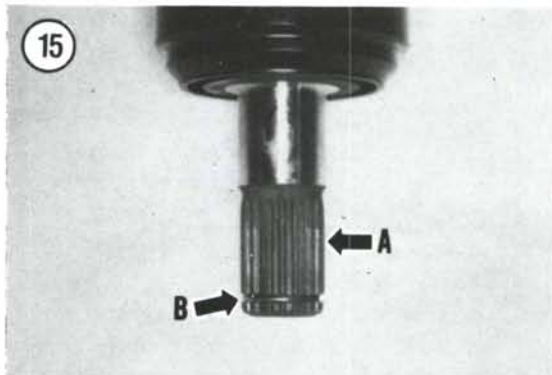
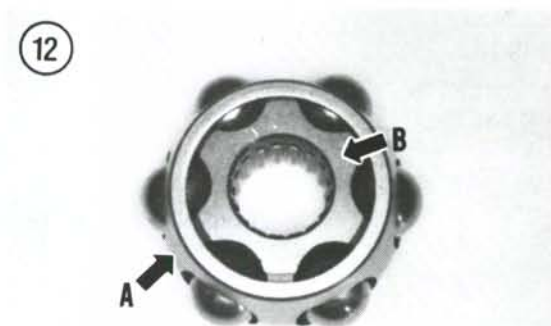
10. Check the stopper ring (B, **Figure 15**) in the end of the inboard joint. Make sure it seats in the groove correctly, if damaged the ring must be replaced.

11. Inspect the exterior of the inboard joint (**Figure 16**) for cracks or damage, replace if necessary.

12. Check the movement of the outboard joint (**Figure 17**) for excessive play or noise by moving the drive axle in a circular direction.

13. Inspect the drive axle for bending, wear or damage.

14. Inspect the inner end splines (**Figure 18**), the outer end splines (A, **Figure 19**) and the front hub cotter pin hole (B, **Figure 19**) for wear or damage. If any of these areas are worn or damaged, replace the drive axle.



Assembly

Refer to **Figure 5** for this procedure.

1. The rubber boots are not identical and must be installed on the correct joint. The boots are marked as follows:

- a. Inboard joint: BJ68 (A, **Figure 20**).
- b. Outboard joint: BJ68L (B, **Figure 20**).

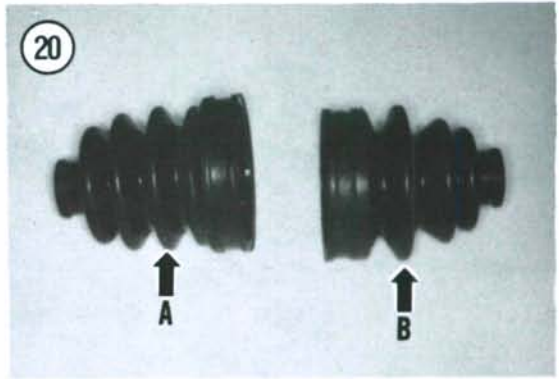
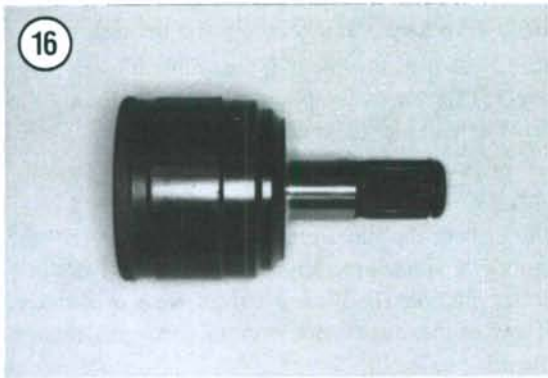
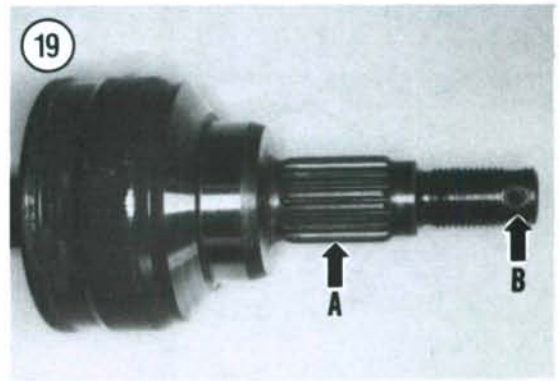
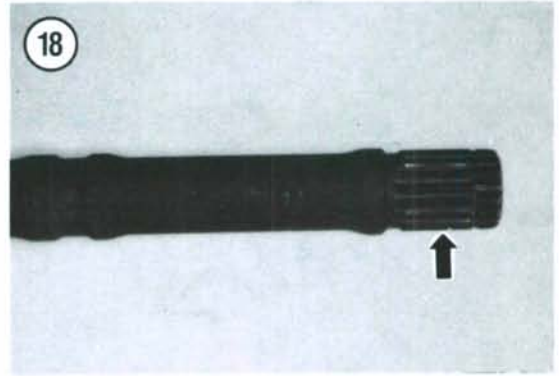
2. If the outboard boot was removed, install a new boot (BJ68L) onto the drive axle at this time.

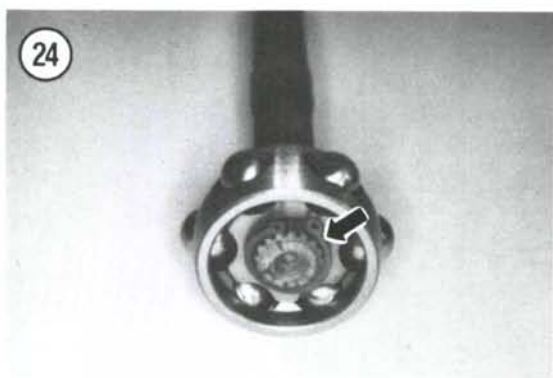
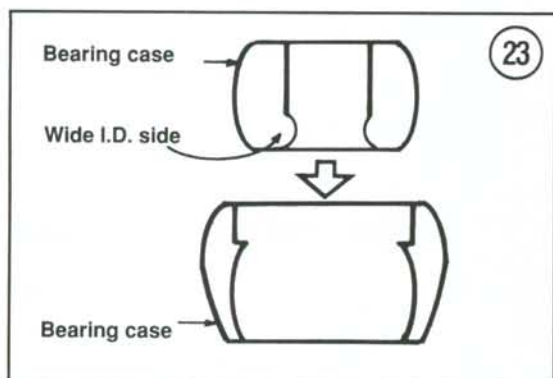
NOTE

*Position the new boot bands with their tabs facing toward the **rear** of the vehicle.*

3. Install 2 new small boot bands "A" onto the drive axle.

4. Install the inboard boot (BJ68) and move the small boot band "A" onto the boot (**Figure 21**). Bend down the tab on the boot band and secure the tab with the locking clips and tap them with a plastic hammer. Make sure they are locked in place (**Figure 22**).





5. If the bearing assembly was disassembled, assemble the bearing as follows:

- Position the bearing race with the wide inner diameter (I.D.) going on first and install the race into the bearing case (Figure 23). Align the steel ball receptacles in both parts.
- Install the steel balls into their receptacles in the bearing case.
- Pack the bearing assembly with molybdenum disulfide grease. This will help hold the steel balls in place.

6. Position the bearing assembly with the *small end* of the bearing going on first and install the bearing onto the drive axle (Figure 10).

7. Push the bearing assembly on until it stops, then install the circlip (Figure 24). Make sure the circlip seats correctly in the drive axle groove.

8. Apply a liberal amount of molybdenum disulfide grease to the bearing assembly (Figure 25). Work the grease in between the balls, the race and the case. Make sure all voids are filled with grease.

9. Apply a liberal amount of molybdenum disulfide grease to the inner surfaces of the inboard joint.

10. Install the inboard joint over the bearing assembly (Figure 26) and install the stopper ring (Figure 27). Make sure it is seated correctly in the inboard joint groove.

11. After the stopper ring is in place, fill the inboard joint cavity behind the bearing assembly with additional molybdenum disulfide grease (B, Figure 6).

12. Pack each boot with the following amounts of molybdenum disulfide grease:

- Inboard boot: 35-55 grams (1.2-1.9 oz.).
- Outboard boot: 30-50 grams (1.1-1.8 oz.).

13. Move the inboard boot onto the inboard joint (Figure 28).



14. Move the inboard joint on the drive axle until the distance between the ends of the inboard and outboard joints is 351-361 mm (13.8-14.2 in.) as shown in **Figure 29**.

NOTE

Position the new boot bands with their tabs facing toward the rear of the vehicle.

15. Move the small boot band "A" onto the boot (**Figure 30**). Bend down the tab on the boot band and secure the tab with the locking clips and tap them with a plastic hammer. Make sure they are locked in place (**Figure 22**).

16. Install the large boot bands "B" onto each boot.

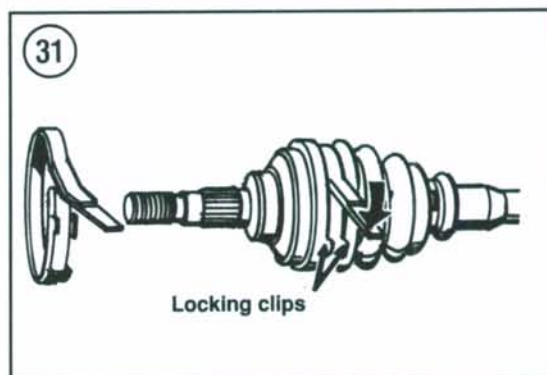
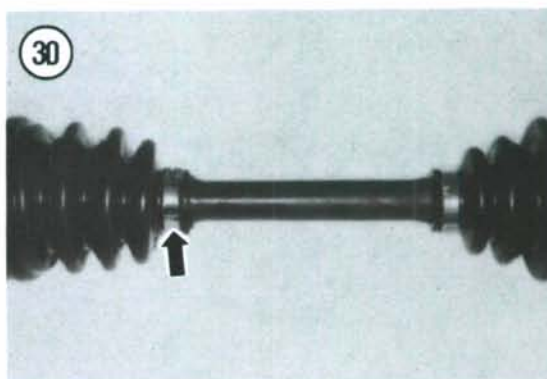
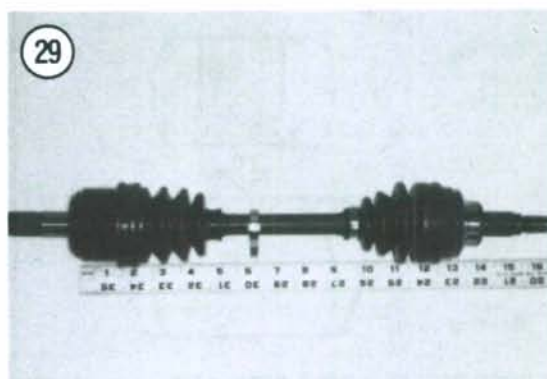
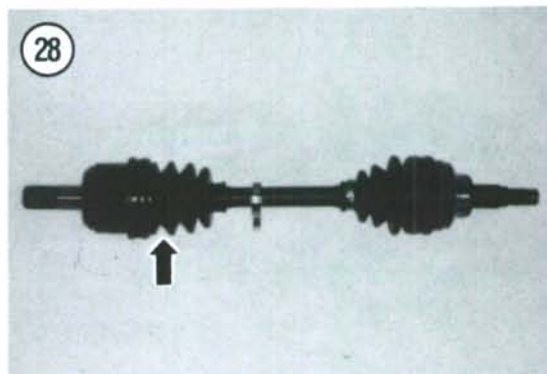
CAUTION

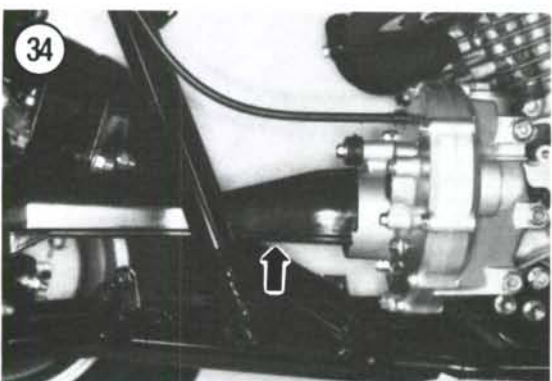
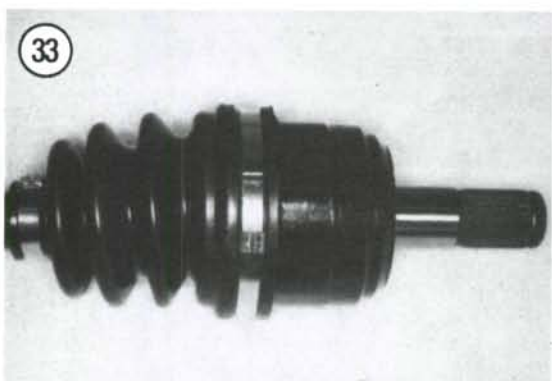
Make sure the inboard joint does not move while installing the boot bands. The dimension achieved in Step 14 must be maintained at all times. This dimension is critical to avoid undue stress on the rubber boots after the drive axle is installed and the vehicle is run.

17. Refer to **Figure 31** and secure all large boot bands. Bend down the tab (**Figure 32**) on the boot band and secure the tab with the locking clips and tap them with a plastic hammer. Make sure they are locked in place (**Figure 33**).

18. If removed, install the stopper ring (B, **Figure 15**) and make sure it is seated correctly in the drive axle groove.

19. Apply molybdenum disulfide grease to the end splines.

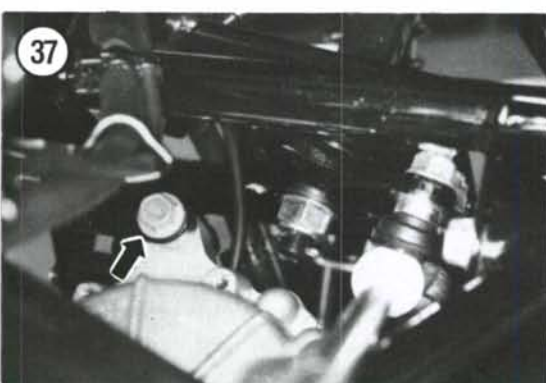
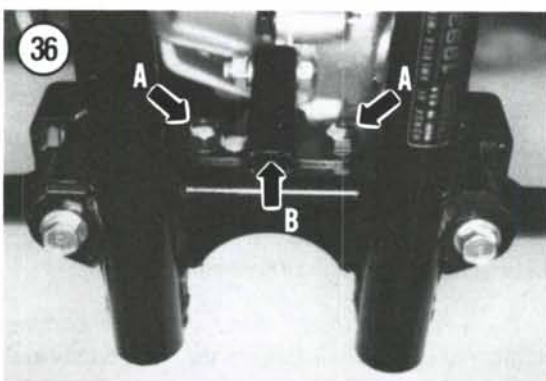




FRONT DIFFERENTIAL AND PROPELLER SHAFT

Removal/Installation

1. Drain the oil from the front differential as described in Chapter Three.
2. Remove the front fender as described in Chapter Thirteen.
3. Remove both front drive axles as described in this chapter.
4. Remove the bolts securing the propeller shaft cover (Figure 34) and remove the cover.
5. Remove the front differential front mounting bolt and nut (Figure 35).
6. Remove the bolts and nuts (A, Figure 36) securing the front differential mounting bracket and remove the mounting bracket (B, Figure 36).
7. Remove the front differential upper mounting bolt, nut and collar (Figure 37) and the lower rear mounting bolt and nut (Figure 38).
8. Carefully pull the front differential (A, Figure 39) forward and disengage the propeller shaft (B, Figure 39) from the front gearcase (C, Figure 39).



Copyright of Honda TRX300/FOURTRAX 300 & TRX300FW/FOURTRAX 300 4x4, 1988-2000 is the property of Penton Media, Inc. ("Clymer") and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.